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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/771,021	02/03/2004	Stephen F. Bush	036-0027	2651
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PRASS & IRVING, LLP			EXAMINER	
2661 Riva Road			ROBERTS, BRIAN S	
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ANNAPOLIS, MD 21401			ART UNIT	PAPER NUMBER
			2616	
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			07/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/771,021	BUSH, STEPHEN F.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Brian Roberts	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 03 February 2004.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-18 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 03 February 2004 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_

## **DETAILED ACTION**

- Claims 1-18 have been examined.

### ***Claim Objections***

1. Claims 2, 3, 8, and 15 are objected to because of the following informalities:
  - In claims 2, 3, 8, and 15, the term "injected" should be amended to --added--  
Appropriate correction is required.

### ***Claim Rejections - 35 USC § 101***

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 8-14 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

- In reference to claims 8

The term "computer program product" renders the claim non-statutory. The claim must recite a computer program on a **computer readable medium**.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- In reference to claim 1

The term "genetically" renders the claim indefinite. The term is not defined by the claim or the specification and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

- In reference to claim 1, 2, 6, 8, 15

The term "active packet" renders the claim indefinite. The term is not defined by the claim or the specification and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Are all packets active and if not then what is the difference between an "active packet" and "non-active packet"?

- In reference to claim 5

The phrase "genetically modifies itself" renders the claim indefinite. The phrase is not defined by the claim or the specification and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

- In reference to claim 6-7

The term "parental program" renders the claim indefinite. The term is not defined by the claim or the specification and one of ordinary skill in the art would not be

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reasonably apprised of the scope of the invention. Furthermore, is unclear how a packet is capable of perform a mutation operation or generate a program. A packet is simply a formatted block of data comprising a header, payload, and a trailer. A computer can perform an operation on a packet but a packet cannot perform an operation by itself.

- In reference to claim 8

It is unclear how a packet is capable of performing a first instruction. A packet is simply a formatted block of data comprising a header, payload, and a trailer. A computer can perform an operation on a packet but a packet cannot perform an operation by itself. The term "genetically" renders the claim indefinite. The term is not defined by the claim or the specification and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

- In reference to claim 9 and 15

The term "parental program" renders the claim indefinite. The term is not defined by the claim or the specification and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

- In reference to claim 10

The phrase "two parental programs have different sizes and shapes" renders the claim indefinite. It is unclear how a program has a size or shape.

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- In reference to claim 12

The phrase "population of structures" renders the claim indefinite. It is unclear what constitutes a structure.

- In reference to claim 14

The phrase "enforcing minimal requirements on an execution environment of the network" renders the claim indefinite. It is unclear which requirements the limitation is referring too and what constitutes "an execution environment".

- In reference to claim 15

The limitation "executing said operating step by an active packet" is unclear and confusing. A node can receive a packet containing instructions and then execute the instructions contained in the packet but it is unclear how a packet can operate a plurality of nodes.

- In reference to claim 17-18

The limitation "a state of the network" renders the claim indefinite because it is unclear what constitutes a state and what are some possible states of the network.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-18, as best understood, are rejected under 35 U.S.C. 102(e) as being anticipated by Cain (US 7068600)

- In reference to claim 1

In Figure 11, Cain teaches an ad-hoc wireless network that includes:

A plurality of nodes **30** transmitting packets that implement adaptation of atleast one of the nodes in response to changing QOS conditions at one of the plurality of nodes. (column 9 lines 10-53)

- In reference to claim 2-4

In Figure 11, Cain further teaches the packets contain a QOS metric (*functional unit*). The QOS metric inherently remains inactive until a program to recognize the QOS metric is added to the plurality of nodes and allows evolution of the nodes. (column 9 lines 45-53)

- In reference to claim 5-7

In Figure 11, Cain further teaches that the system modifies itself to meet QOS needs. (column 9 lines 10-53)

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- In reference to claim 8-14

In Figure 11, Cain teaches an ad-hoc wireless network and method that includes a plurality of nodes **30** transmitting packets that implement adaptation of atleast on of the nodes in response to changing QOS conditions at one of the plurality of nodes. (column 9 lines 10-53) The packets contain a QOS metric (*functional unit*). (column 9 lines 45-53) The QOS metric inherently remains inactive until a program to recognize the QOS metric is added to the plurality of nodes and allows evolution of the nodes.

- In reference to claims 15

In Figure 11, Cain teaches an ad-hoc wireless network and method that includes a plurality of nodes **30** transmitting packets that implement adaptation of atleast on of the nodes in response to changing QOS conditions at one of the plurality of nodes. (column 9 lines 10-53) The packets contain a QOS metric (*functional unit*). (column 9 lines 45-53) The QOS metric is utilized to calculate a QOS tag value and select a route from a source node to a destination node. (column 9 lines 34-44)

- In reference to claim 16

In Figure 11, Cain further teaches broadcasting the state of each of the plurality of nodes to the other nodes. (column 9 lines 34-44)

- In reference to claim 17-18

In Figure 11, Cain further teaches predicting a state of the network and querying the network to verify the accuracy of the predication. (column 9 lines 10-53)

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure are:

- Sholander et al. (US 7177295) teaches a wireless routing protocol for ad-hoc networks.
- Bush (US 2004/0156333) teaches a system for evolutionary service migration.
- Garahi et al. (US 6754188) teaches a method of switching packets based on packet content in an ad-hoc network.
- Toh (US 5987011) teaches a routing method for an ad-hoc mobile network.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Roberts whose telephone number is (571) 272-3095. The examiner can normally be reached on M-F 10:00-7:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BSR  
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